MagLab Summer School
Tallahassee, Florida
June 21-28, 2009

MONDAY, JUNE 22

0800 Gather at MagLab in Room B101

0815 The Versatility of Magnetic Fields in Condensed Matter Physics, Chemistry and Biology-Greg Boebinger

0900 Introduction, Expectations, Agenda-Albert Migliori

0915 Noise-Albert Migliori

1015 Break

1030 Measuring Resistivity and Hall Resistance in DC Magnetic Fields-Eric Palm

1115 R, R_H in Pulsed magnets-Jon Betts

1200 LUNCH:
Groups 1, 2 eat with Palm and other DC Magnet folks in B101
Groups 3, 4 eat in the lobby with Betts and other Pulsed folks

1330 Noise suppression-Jan Jaroszynski

Lab Practicals

1415	*Group 1*	*Cell A:*	*R,R_H in DC magnets*-Eric Palm
	Group2	*Cell B:*	*R,R_H in pulsed magnets*-Jon Betts
	Group3	*Cell C:*	*Find the ground loop exercise*-Jan Jaroszynski
	Group4	*Cell D:*	*Set up a measurement per schematic*-Scott Hannahs

1600 Break

1615	*Group 3*	*Cell A:*	*R,R_H in DC magnets*-Eric Palm
	Group4	*Cell B:*	*R,R_H in pulsed magnets*-Jon Betts
	Group1	*Cell C:*	*Find the ground loop exercise*-Jan Jaroszynski
	Group2	*Cell D:*	*Set up a measurement per schematic*-Scott Hannahs

1830 DINNER
High-Field Fourier Transform Ion Cyclotron Resonance Mass Spectrometry-Chris Hendrickson

2000 END OF DAY

TUESDAY, JUNE 23

0800 Gather at MagLab in Room B101

0815 The Do's and Don'ts of Running in the DC Field Facility-Eric Palm

0840 Cryogenic Techniques for High Magnetic Field Experiments-Tim Murphy

0900 Open

1000 Break

1030 Ultra-Low Temperature Experiments-Neil Sullivan

1115 Measuring Heat Capacity in High DC Magnetic Fields-Jon Betts

1200 LUNCH
Groups 3, 4 eat with Palm and other DC Magnet folks in B101
Groups 1, 2 eat in the lobby with Betts and other Pulsed folks

1330 Data Acquisition-Scott Hannahs

Lab Practicals

1415	*Group 3*	*Cell D:*	*R,R_H in DC magnets*-Eric Palm
	Group4	*Cell C:*	*R,R_H in pulsed magnets*-Jon Betts
	Group1	*Cell B:*	*Find the ground loop exercise*-Jan Jaroszynski
	Group2	*Cell A:*	*Set up a measurement per schematic*-Scott Hannahs

1600 Break

1615	*Group 3*	*Cell B:*	*R,R_H in DC magnets*-Eric Palm
	Group4	*Cell A:*	*R,R_H in pulsed magnets*-Jon Betts
	Group1	*Cell D:*	*Find the ground loop exercise*- Jan Jaroszynski
	Group2	*Cell C:*	*Set up a measurement per schematic*-Scott Hannahs

1830 DINNER
Exploring the Limitations and Capabilities of High Field MR-Samuel Grant

2000 END OF DAY

WEDNESDAY, JUNE 24

0800 Gather at MagLab in Room B101

0815 Pulsed Field Facility-Chuck Mielke

0900 Fermi surfaces in Extreme Magnetic Fields-Neil Harrison

1000 Break

1030 Magnetometry at the NHMFL: A Practical Guide to AC Susceptometer, Torque Magnetometer,VSM Users-Eun Sang Choi

1115 Open

1200 LUNCH
Groups 1, 2 eat with Smirnov in B101
Groups 3, 4 eat in the lobby with McDonald

1300 FREE TIME

1830 DINNER
Optical Microscopy for the Material Sciences-Michael Davidson

2000 END OF DAY

THURSDAY, JUNE 25

0800 Gather at MagLab in Room B101

0815 Infrared and THz spectroscopy at High Magnetic Fields-Dmitry Smirnov

0900 The TDO and Beyond: Contactless Methods for High Precision Measurements of Electrical Resistivity-Chuck Mielke

1000 Break

1030 The Vector Potential and Other Exotica in High Field and Low Temperature Experiments-Jim Brooks

1115 Applications of Electron Magnetic Resonance at the NHMFL-Stephen Hill

1200 LUNCH
A "Big Light" Terahertz-to-Infrared Laser: *Condensed Matter Physics, Chemistry and Biology in the Notorious 'Terahertz Gap*-Greg Boebinger

1330 NMR for Chemistry and Biology-Zhehong Gan

Lab Practicals

1415	*Group1*	*Cell A:*	*Acquire a spectrum on FTIR, as function of B*–Dmitry Smirnov
	Group2	*Cell B:*	*Acquire a spectrum on EMR, as function of B*-Steve Hill
	Group3	*Cell C:*	*Cantilevers, cavities*-Ross McDonald
	Group4	*Cell D:*	*Acquire a spectrum using NMR*-Zhehong Gan

1600 Break

1615	*Group1*	*Cell C:*	*Acquire a spectrum on FTIR, as function of B*–Dmitry Smirnov
	Group2	*Cell D:*	*Acquire a spectrum on EMR, as function of B*-Steve Hill

Group3 *Cell A:* *Cantilevers, cavities*-Ross McDonald
Group4 *Cell B:* *Acquire a spectrum using NMR*-Zhehong Gan

1830 DINNER
NMR for Chemistry and Biology-Zhehong Gan

2000 END OF DAY

FRIDAY, JUNE 26

0800 Gather at MagLab in Room B101

0815 Ultrafast User Spectroscopy at the NHMFL-Steve McGill

0900 Ultrasound (Pulsed and RUS)-Albert Migliori

1000 Break

1030 High Pressure Methods for Extreme Condition Research-Stan Tozer

1115 Dilatometry-Vivien Zapf

1200 LUNCH
Groups 3, 4 eat with Smirnov in B101
Groups 1, 2 eat in the lobby with McDonald

1330 Petroleum Analysis by Fourier Transform Ion Cyclotron Resonance Mass Spectrometry-Ryan Rodgers

1415 *Group1* *Cell B:* *Acquire a spectrum on FTIR, as function of B*–Dmitry Smirnov
Group2 *Cell A:* *Acquire a spectrum on EMR, as function of B*-Steve Hill
Group3 *Cell D:* *Cantilevers, cavities*-Ross McDonald
Group4 *Cell C:* *Acquire a spectrum using NMR*-Zhehong.Gan

1600 Break

1615 *Group1* *Cell D:* *Acquire a spectrum on FTIR, as function of B*–Dmitry Smirnov
Group2 *Cell C:* *Acquire a spectrum on EMR, as function of B*-Steve Hill
Group3 *Cell B:* *Cantilevers, cavities*-Ross McDonald
Group4 *Cell A:* *Acquire a spectrum using NMR*-Zhehong Gan

1830 DINNER
Superconductors for Superconducting Magnets-David Larbalestier

2000 END OF DAY

SATURDAY, JUNE 27

0800 Gather at MagLab in Room B101

Student presentations --*Each student brings 12 minute talk on pre-assigned paper. Assignments made from list of high-magnetic field papers. Each student presents to fellow students.*

1300 END OF DAY

SUNDAY, JUNE 28 **(return home)**